

primary studies - published RCT

## **Benefits of an education programme on the self-management of aerosol and airway clearance treatments for children with cystic fibrosis.**

**Code:** PM16509174

**Year:** 2006 **Date:** 2010

**Author:** Downs JA

### **Study design (if review, criteria of inclusion for studies)**

RCT, open crossover study.

### **Participants**

38 children with CF

### **Interventions**

Subjects underwent an initial bronchial provocation challenge with dry powder mannitol. Those children with a negative challenge were randomly allocated to one of three consecutive 12-week treatment blocks (inhaled mannitol alone, nebulised rhDNase alone and mannitol + rhDNase).

### **Outcome measures**

The primary outcome was forced expiratory volume in 1 s (FEV(1)). A number of secondary outcome measures were also studied.

### **Main results**

20 children completed the study. Bronchoconstriction and cough associated with mannitol administration contributed to the high attrition rate. The mean increase in FEV(1) following 12 weeks of treatment was 0.11 litres (6.7%) ( $p = 0.055$ ) for mannitol alone, 0.12 litres (7.2%) ( $p = 0.03$ ) for rhDNase alone and 0.03 litres (1.88%) ( $p = 0.67$ ) for rhDNase and mannitol. None of the secondary clinical outcomes was statistically significantly different between treatments.

### **Authors' conclusions**

Inhaled mannitol was at least as effective as rhDNase after 3 months treatment. There was a marked individual variation in tolerance to mannitol and in response to treatment however. Children who do not respond to rhDNase may benefit from a trial of inhaled mannitol. The combination of mannitol and rhDNase was not useful.

<http://dx.doi.org/10.1191/1479972306cd100oa>

### **See also**

Chron Respir Dis. 2006;3(1):19-27.

### **Keywords**

Adolescent; Child; Combined Modality Therapy; Deoxyribonuclease; Inhalation OR nebulised; Mannitol; pharmacological\_intervention; Powders; Recombinant Proteins; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Respiratory System Agents; Dornase alpha; Pulmozyme;